

June 27, 2012

Mr. Mark Nations  
The Doe Run Company  
P.O. Box 1633  
Desloge, Missouri 63601

**Re: Ambient Air Monitoring Report – National Site**

Dear Mr. Nations:

Please find attached the First Quarter 2012 “*Ambient Air Monitoring Report*” for The Doe Run Company at the National Industries, Inc. Reclamation Area Sites, located near Park Hills, Missouri.

This report will include the following:

- **Glossary of Terms** – Listing of the abbreviations used for each parameter and unit.
- **National Ambient Air Quality Standards** – Lists the maximum allowable concentrations for the measured parameters.
- **Quarterly Missing Data Summary** – Listing of missing particulate run days.
- **Quarterly Data Summary** – Includes the averages of each monitored parameter, which relates to the federal standard.

Barr Engineering Company offers this report as an independent laboratory. This includes the weighing of filters, obtaining lead and cadmium analysis, compiling the data, and preparing the report. No interpretation of the data or analysis of the results is implied or intended. Should you have any questions regarding this report, please call.

Respectfully,

Richard J. Campbell, PE  
Chemical Engineer  
Senior Environmental Consultant

c: Ms. Kathy Rangen  
Mr. Jason Gunter  
Mr. Ty Morris  
Mr. Kevin Lombardozzi

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***Ambient Air Monitoring Report***

***National Industries, Inc. Reclamation Area Site  
Park Hills, Missouri***

***The Doe Run Company***

***First Quarter 2012***



## ***Ambient Air Monitoring Report***

***National Industries, Inc. Reclamation Area Site  
Park Hills, Missouri***

***The Doe Run Company***

***First Quarter 2012***



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## GLOSSARY OF TERMS

$\mu\text{g}/\text{m}^3$	Micrograms per Cubic Meter
TSP	Total Suspended Particulate
PM <sub>10</sub>	Particulate Matter - 10 Microns or Less
mmHg	Millimeters of Mercury

## NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

PM <sub>10</sub> – Particulate Matter	24-Hour*	Annual Maximum	150 $\mu\text{g}/\text{m}^3$
Lead	Calendar Quarter	Arithmetic Mean	1.5 $\mu\text{g}/\text{m}^3$

TSP (Total Suspended Particulate) – There are no Federal Standards that apply solely for TSP.

\*This standard must be exceeded more than once a year to constitute a violation.

## QUARTERLY MISSING DATA SUMMARY

### TSP/Lead Summary

All Sites – 1/2/2012 – Holiday – No samples scheduled  
National Site Water Plant #3 – 2/29/2012 – Blank Filter QA  
All Sites – 3/7/2012 – Training – No samples scheduled

### PM<sub>10</sub> Summary

National Site Water Plant #3 – 2/29/2012 – Filter Blank QA

***Particulate and Lead Quarterly Summary***



## TSP and Lead Concentration Summary

National  
Park Hills, Missouri

2012

Date	TSP Big River #4 ( $\mu\text{g}/\text{m}^3$ )	TSP Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	TSP Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	TSP Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	LEAD Big River #4 ( $\mu\text{g}/\text{m}^3$ )	LEAD Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	LEAD Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	LEAD Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )
1/3/12	14	35	23	13	0.014	0.074	0.046	0.017
1/4/12	60	40	27	37	0.088	0.026	0.023	0.046
1/5/12	19	41	22	15	0.033	0.073	0.039	0.030
1/6/12	22	33	33	22	0.019	0.025	0.026	0.021
1/9/12	47	42	35	26	0.054	0.033	0.041	0.023
1/10/12	33	26	34	25	0.026	0.009	0.024	0.025
1/11/12	17	22	24	18	0.007	0.013	0.019	0.012
1/12/12	25	31	24	22	0.025	0.008	0.008	0.029
1/13/12	17	21	21	15	0.014	0.013	0.025	0.011
1/16/12	24	29	30	26	0.009	0.018	0.010	0.006
1/17/12	11	23	15	10	0.000	0.011	0.007	0.000
1/18/12	16	17	17	12	0.012	0.015	0.019	0.008
1/19/12	29	19	22	21	0.017	0.006	0.013	0.010
1/20/12	30	23	26	25	0.015	0.007	0.010	0.008
1/23/12	13	23	19	13	0.006	0.015	0.016	0.014
1/24/12	28	20	25	18	0.014	0.009	0.019	0.011
1/25/12	6	3	3	3	0.000	0.000	0.000	0.006
1/26/12	7	13	11	7	0.000	0.000	0.000	0.000
1/27/12	11	11	12	7	0.007	0.007	0.016	0.006
1/30/12	16	25	26	20	0.000	0.018	0.027	0.014
1/31/12	15	28	18	23	0.009	0.064	0.019	0.035
Monthly Average	22	25	22	18	0.018	0.021	0.019	0.016

QUARTERLY LEAD NAAQS LIMIT:  $1.5 \mu\text{g}/\text{m}^3$

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



## TSP and Lead Concentration Summary

National  
Park Hills, Missouri

2012

Date	TSP Big River #4 ( $\mu\text{g}/\text{m}^3$ )	TSP Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	TSP Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	TSP Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	LEAD Big River #4 ( $\mu\text{g}/\text{m}^3$ )	LEAD Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	LEAD Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	LEAD Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )
2/1/12	17	25	46	17	0.024	0.025	0.129	0.019
2/2/12	32	22	30	23	0.037	0.017	0.033	0.036
2/3/12	6	4	4	5	0.000	0.000	0.000	0.000
2/6/12	9	17	18	13	0.008	0.015	0.024	0.015
2/7/12	13	14	18	16	0.012	0.007	0.008	0.014
2/8/12	7	16	16	9	0.000	0.013	0.033	0.006
2/9/12	8	12	11	10	0.007	0.026	0.013	0.008
2/10/12	11	18	17	11	0.009	0.008	0.027	0.010
2/13/12	3	6	5	5	0.013	0.012	0.012	0.009
2/14/12	8	22	18	10	0.011	0.013	0.033	0.013
2/15/12	5	8	9	4	0.060	0.000	0.000	0.000
2/16/12	22	35	32	27	0.008	0.022	0.031	0.016
2/17/12	22	21	26	18	0.019	0.017	0.041	0.015
2/20/12	10	16	14	11	0.000	0.012	0.015	0.006
2/21/12	9	26	23	14	0.013	0.032	0.035	0.020
2/22/12	23	36	38	29	0.008	0.030	0.041	0.026
2/23/12	35	32	36	34	0.034	0.022	0.042	0.129
2/24/12	26	17	15	23	0.038	0.012	0.018	0.068
2/27/12	31	26	33	29	0.019	0.010	0.031	0.037
2/28/12	73	75	81	83	0.013	0.016	0.027	0.049
2/29/12	38	34	31	33	0.017	0.040	0.021	0.022
Monthly Average	19	23	25	20	0.017	0.017	0.029	0.025

QUARTERLY LEAD NAAQS LIMIT:  $1.5 \mu\text{g}/\text{m}^3$

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



## TSP and Lead Concentration Summary

National  
Park Hills, Missouri

2012

Date	TSP Big River #4 ( $\mu\text{g}/\text{m}^3$ )	TSP Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	TSP Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	TSP Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	LEAD Big River #4 ( $\mu\text{g}/\text{m}^3$ )	LEAD Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	LEAD Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	LEAD Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )
3/1/12	43	44	49	39	0.007	0.020	0.023	0.007
3/2/12	61	29	51	39	0.104	0.017	0.282	0.181
3/5/12	29	38	52	23	0.019	0.091	0.145	0.016
3/6/12	88	112	129	72	0.030	0.187	0.209	0.047
3/8/12	9	23	20	11	0.000	0.010	0.023	0.008
3/9/12	19	15	15	13	0.011	0.010	0.016	0.006
3/12/12	26	33	33	26	0.000	0.020	0.027	0.000
3/13/12	31	26	28	26	0.022	0.011	0.022	0.023
3/14/12	29	34	35	30	0.008	0.019	0.028	0.007
3/15/12	14	12	13	13	0.000	0.000	0.012	0.000
3/16/12	16	21	26	18	0.000	0.000	0.017	0.000
3/19/12	38	44	62	39	0.007	0.013	0.035	0.000
3/20/12	51	55	82	49	0.014	0.017	0.050	0.000
3/21/12	30	29	40	28	0.008	0.000	0.026	0.007
3/22/12	12	12	15	10	0.006	0.000	0.008	0.000
3/23/12	7	12	10	8	0.000	0.000	0.000	0.000
3/26/12	51	38	47	48	0.011	0.000	0.022	0.000
3/27/12	55	71	62	58	0.010	0.044	0.025	0.013
3/28/12	81	64	65	67	0.036	0.013	0.031	0.021
3/29/12	72	71	61	65	0.018	0.022	0.021	0.016
3/30/12	52	53	47	42	0.020	0.011	0.014	0.012
Monthly Average	39	40	45	35	0.016	0.024	0.049	0.017
Quarterly Average	27	29	31	24	0.017	0.021	0.033	0.019
QUARTERLY LEAD NAAQS LIMIT: 1.5 $\mu\text{g}/\text{m}^3$								

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.

*PM<sub>10</sub> Quarterly Summary*



## Particulate Summary

### National Park Hills, Missouri

2012

Date	PM10 Big River #4 ( $\mu\text{g}/\text{m}^3$ )	PM10 Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	PM10 Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	PM10 Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	PM10 NAAQS ( $\mu\text{g}/\text{m}^3$ )
4-Jan	20	16	11	12	150
7-Jan	13	14	14	12	150
10-Jan	27	21	23	20	150
13-Jan	13	10	9	8	150
16-Jan	13	12	11	11	150
19-Jan	15	11	11	12	150
22-Jan	10	8	9	8	150
25-Jan	15	9	9	7	150
28-Jan	2	5	5	2	150
31-Jan	11	13	9	10	150
Monthly Average	14	12	11	10	

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## Particulate Summary

### National Park Hills, Missouri

2012

Date	PM10 Big River #4 ( $\mu\text{g}/\text{m}^3$ )	PM10 Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	PM10 Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	PM10 Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	PM10 NAAQS ( $\mu\text{g}/\text{m}^3$ )
3-Feb	10	7	8	6	150
6-Feb	11	13	12	12	150
9-Feb	8	10	9	8	150
12-Feb	11	7	7	3	150
15-Feb	5	5	5	4	150
18-Feb	16	12	12	14	150
21-Feb	4	6	6	4	150
24-Feb	16	9	7	11	150
27-Feb	14	13	14	12	150
Monthly Average	11	9	9	8	

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## Particulate Summary

### National Park Hills, Missouri

2012

Date	PM10 Big River #4 ( $\mu\text{g}/\text{m}^3$ )	PM10 Ozark #1 ( $\mu\text{g}/\text{m}^3$ )	PM10 Soccer #2 ( $\mu\text{g}/\text{m}^3$ )	PM10 Water Plant #3 ( $\mu\text{g}/\text{m}^3$ )	PM10 NAAQS ( $\mu\text{g}/\text{m}^3$ )
1-Mar	15	12	12	10	150
4-Mar	10	9	8	7	150
7-Mar	37	31	35	27	150
10-Mar	9	8	8	6	150
13-Mar	16	14	15	13	150
16-Mar	8	7	8	7	150
19-Mar	16	16	20	15	150
22-Mar	7	7	7	7	150
25-Mar	15	15	15	14	150
28-Mar	34	31	30	31	150
31-Mar	24	21	22	21	150
Monthly Average	17	15	16	14	
Quarterly Average	14	12	12	11	

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.

*Quarterly Quality Control*



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## ANALYSIS REPORT

### Client Information:

Barr Engineering  
7390 Ohms Lane  
Edina, MN 55439

**Project Name:** Quarterly QC Samples  
**Quarter-Year:** Q1-2012  
**Sample Matrix:** Filter

**Analysis Method:** 40 CFR §58 Appendix A/40 CFR §50 Appendix G

Lab Number	Observed Value	Actual Value	Difference	Difference	% Difference Average	Standard Deviation	95% Probability	95% Probability	Analyst-Date
	(µg Pb/Filter)	(µg Pb/Filter)	(+/-)	(%)	(%)		Limit (+)	Limit (-)	
20A	19.721	20	-0.279	-1.395%					DS-01/27/12
20B	19.817	20	-0.183	-0.915%					DS-02/29/12
20C	19.886	20	-0.114	-0.570%	-0.960%	0.414%	-0.148%	-1.772%	DS-03/02/12
60A	58.251	60	-1.749	-2.915%					DS-01/27/12
60B	61.044	60	1.044	1.740%					DS-02/29/12
60C	61.396	60	1.396	2.327%	0.384%	2.872%	6.013%	-5.245%	DS-03/02/12

Submitted by:

Jennifer Vandelicht  
Quality Assurance

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03/06/2012

Date

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